GRONO series
Decorative gobo/grating laser

User manual

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Safety instructions

WARNING!

Always keep this device away from moisture and rain! Hazardous electrical shocks may occur!

WARNING!

Only connect this device to a matching power outlet. This device is intended to work on a specified AC currency. Connecting this device to power outlets with other voltages may result in permanent damage and possible hazardous situations, such as fire or electrical shocks!

WARNING!

Be careful with every operation of this device. Touching live wires inside and outside the unit may cause hazardous electrical shocks!

This unit must be operated by, or under the supervision of an adult. This device is not suitable for children.

Every person involved with the installation, operation and maintenance of this device has to:
- Be qualified
- Follow the instructions of this manual

- Make sure there is no damage caused by transport. If the device seems damaged from the outside, do not use it and contact your dealer for more information and consultation.
- To make sure the device maintains in perfect condition and for safe operation, it is necessary for the user to follow the instructions and warning notes of this user manual.
- Damage caused by improper use or modifications to the device are not covered by warranty.
- This device does not have any user-serviceable parts inside. Servicing of this device needs to be done by qualified technicians.

Important notes regarding safety and health:
- Never let the power cord come in contact with other cables. Handle the power cord and all connectors with the mains with caution.
- Never remove any warning or informative labels from the unit
- The ground contact always needs to be connected. Do not cover or remove the ground contact.
- Never leave cables lying around
- Do not open the device and do not modify any hard- or software of this unit.
- Do not insert this object into air vents.
- Do not connect this device to a dimmerpack.
- Do not switch the system on and off frequently as this will reduce the lifespan of the device.
- Do not drive the inputs of the fixture with a signal larger than required to work at full performance.
- Only use this device indoor, avoid contact with water, moist or other liquids. Do not place items filled with liquids on top of the unit.

- Avoid nearby flames or heat sources, do not place this device near flammable liquids, gas or flammable items.
- Always disconnect the device when it is not in use for a longer period or time, when servicing is needed or when the device needs cleaning.
- Only handle the power cord by its connectors. Never pull the cable to remove a connector from its socket, as this could lead to damage and electrical shocks.
- Always operate this device with a stable AC current.
- Always operate this device with the AC ground wire connected to the electrical system's ground.
- Never use other types of cables than specified in the manual, do not use defective or bad functioning cables. Contact your dealer when the included or required cables do not work properly with this device.
- When the device has been exposed to large temperature differences (for example, transport from outdoor to indoor), do not connect the device immediately. Do not activate the unit until it has reached room temperature, as moist might build up inside the unit, which may cause shortcuts and/or electrical shocks.

Guidelines and types of use:
- This device is intended to be used by professionals on stage, in theaters, clubs and other equal venues.
- This device is not suitable for children and always needs to be operated by an adult.
- Only use the device when the environment is suitable and will not cause any damage. Do not use the product in moist or dusty environments, or where long-term damage may occur such as:
    - indoor swimming pools where chlorine is used.
    - Beaches, where sand and salt are present.
    - Outdoor, without roof protection
    - Indoor areas where intense heat sources are present or where the temperature exceeds levels which are comfortable for humans.
- Only use the included power adapter and only connect the device to a suitable power outlet with the correct output voltage. Connecting the device to a power outlet with the wrong type of voltage or using the product with a wrong type of power supply may cause permanent damage to the device.
- Avoid shocks and collision during use and transport. Do not transport the device while in use. Avoid brute force during the installation and operation of this device.
- Familiarize yourself with the functions of the device before use. Do not allow operation of the device by unskilled or unqualified people.
- Use of the device in other ways than described in this user manual may cause damage and injury. Ayra does not take responsibility for any damage or injury caused by improper use.

Storage and transport:
- This device is intended for mobile use. When transported, use the original packaging of the product, or a fitting flightcase, preferably filled with foam.
- This device is not intended for permanent use. Operation breaks will ensure that the lifespan of the device remains unchanged.
- If the device is not used for a longer period of time, disconnect it from its power source and store it in its original packaging, or in a fitting flightcase.
- Store the device indoor, dry and do not expose the device to extreme temperature differences.

Housing:
- Inspect the housing of the device frequently. Severe dents, cracks and missing screws should be avoided at all costs. Do not use the device when the housing is not in optimal condition. Contact your dealer or a skilled technician when in doubt about the state of the device
- Check the fixture and screws for corrosion. Corrosion should not be present on the fixture. Contact your dealer or a skilled technician when corrosion is found on the fixture
- Every power or signal chassis/connector should be mounted tightly. Do not use the device when connectors are loose.
- Do not use the power cord when the cores are visible. Contact your dealer for a replacement if needed.
- Avoid the buildup of dust and dirt. Clean the exterior of the fixture every month with a dry or damp cloth. When using the device intensively, the cleaning frequency needs to be increased.

Guidelines for laser devices

Laser diode guidelines:

WARNING!

This device emits powerful laser beams! Do not look directly in the laser beam to avoid possible permanent injury to eyes and skin! This is a class 3B laser product.

- This device is a professional show and entertainment laser product. The device emits laser beams with a wavelength spectrum between 400 and 700 nm.
- This laser device has a different type of light source than other lighting products. This device is equipped with powerful, concentrated laser beams which could cause serious injuries when used incorrectly. Laser beams are approximately 1000x more powerful than regular light bulbs. This is caused by the very tight projection angle of the laser diode, which is far more concentrated than a regular light source. The combined power of the laser diode is powerful enough to cause permanent visual loss and other injuries when used incorrectly.
- Harmful laser beams which may cause injury do not feel 'hot'. It is possible that laser beams which do not generate noticeable heat cause serious injury. In most cases, this is visual loss, caused by a laser diode because it is focussing on the retina, a sensitive part of the eye which is very sensitive to lighting. Concentrated laser beams might burn the retina, causing permanent visual loss.
- Do not aim this laser device directly into your audience. The minimum distance in height between the floor and the laser device should be more than 3 meters.
- A laser operator is required for the operation of this laser device. Never leave the laser device running unattended.
- The requirements for laser shows may vary from country to country and even from region to region. Contact your local authorities for more information regarding professional laser shows for indoor and outdoor applications.
- Never point the laser directly to reflective surfaces nearby, as this might scatter the laser beams throughout the room.

Optics guidelines:
- Never cover the beam output of the laser!
- Do not remove or replace the lens.
- Do not touch the lens with your fingers
- Only clean the lens with a non-aggressive solution or a damp cloth

Exterior guidelines:
- When used in a hanging position, the device always needs to be secured by using a safety cable. Attach the safety cable to the provided safety eye with the carabiner hook. A safety cable is not included in delivery and can be purchased separately.
- The device must be installed on a flat surface or hanging from a solid construction by using the included bracket. Never hold the machine in your hands during use!
- When using the device in a hanging position, always mount a G-clamp or half coupler to the bracket, or use bolts to install the bracket directly to a ceiling or beam.

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Box contents

Box contents
1x Ayra GRONO series laser (GRONO STAR, GRONO CROSS, GRONO GOBO, GRONO FIRE)
1x power adapter
1x mounting bracket
1x bag with mounting hardware (wall plugs and screws)

Unit and accessory inspection
- Always use the supplied power cable to connect the unit to a power supply. If the cable appears broken or has visible damage, do not use it.
- If the unit is not going to be used for a longer period of time, disconnect it from the power supply and store it in a dust-free environment.
- Always check the unit for possible damage before use. If you suspect that something is wrong with the unit, do not connect it to a power source! When you suspect that your unit is broken or damaged, contact your local dealer or a certified technician to inspect the unit.

Laser types and features:

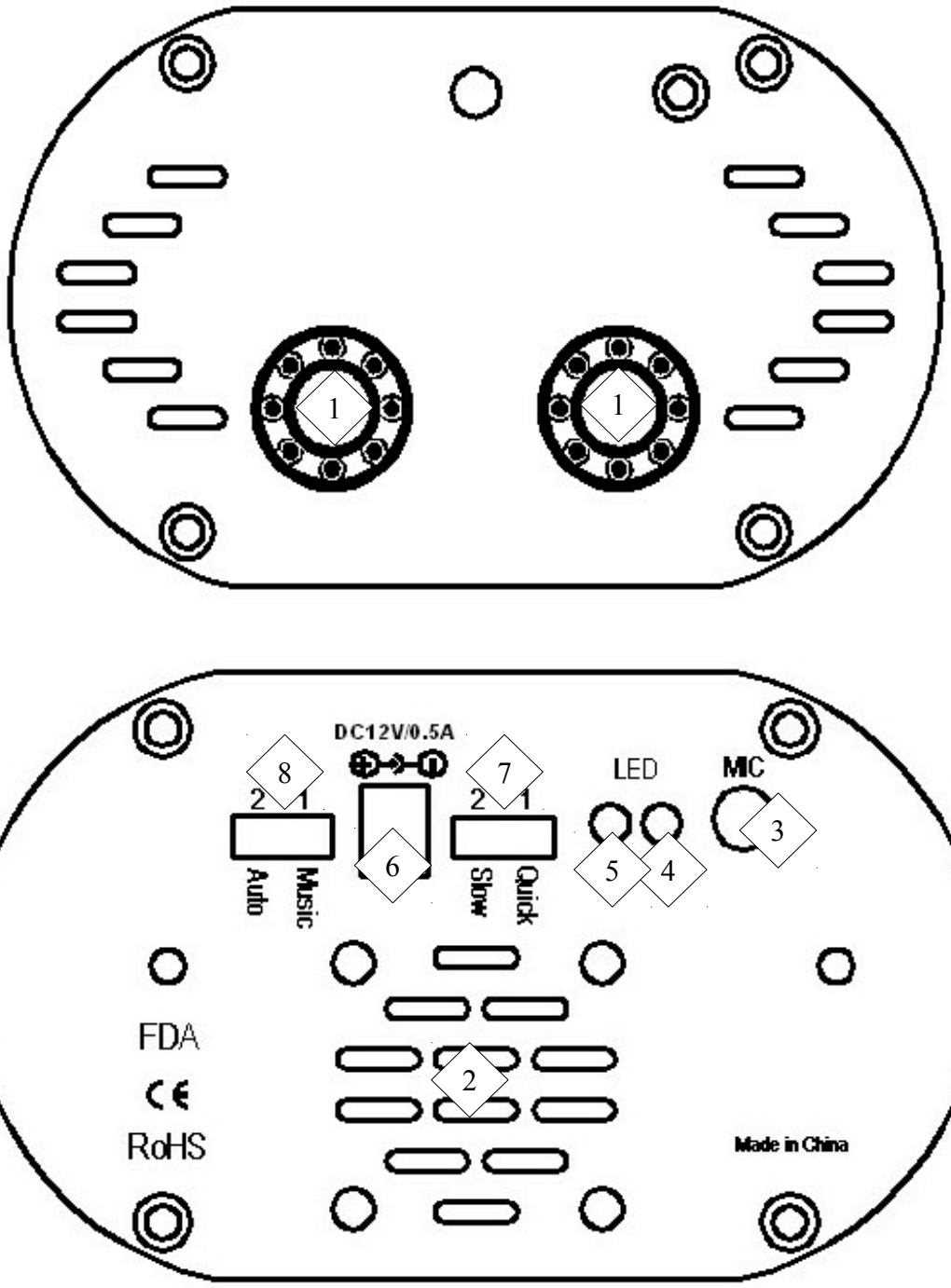
GRONO STAR:
Decorative laser with four red laser gobo's (with special scattering lens) and hundreds of green cross-star effects (with grating lens).

GRONO GOBO:
Decorative laser with six red laser gobo's and four green gobo's.

GRONO CROSS:
Decorative laser with hundreds of red cross-star effects (with grating lens) and 6 green outline gobo's.

GRONO FIRE:
Decorative laser with hundreds of red cross-star effects (with grating lens) and hundreds of green firefly/firework effects.

Device overview



1. Beam output
2. Cooling fan
3. Built-in microphone
4. Sound-active mode LED indicator (signal presence)
5. Power LED indicator
6. 12V DC power inlet (only for use with included power adapter)
7. Rotation speed adjustment (Quick/Slow)
8. Auto/music mode switch

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Setting up the unit

To activate the unit, connect the included power supply with the unit and a suitable 230V, 50 Hz power outlet. The unit will activate directly after it is plugged in to a wall outlet or other power source.

The laser device has two operating modes: Sound active and auto play.

Automatic mode:
This function automatically runs through the built-in gobo wheel, or rotation wheel (depending on the type of laser device). With the switch on the rear of the unit you may select quick or slow rotation speed of either the gobo or rotation wheel(s).

Music controlled mode:
Select this mode when you want to have a music-synchronized light show. The unit has a built-in microphone, which it uses to 'listen' to the beat of the music. With every beat, a certain action is taken. This may be movement (rotation), color change, gobo change or the activation of the strobe mode.

The device has no built-in microphone sensitivity knob. Therefore it is important that the device is placed close to a speaker or music source for optimal response. The microphone only reacts to low frequencies. High-pitched frequencies will have no to minimal effect on the built-in microphone.

Important information for optimal use of your laser
- Laser diodes are very temperature sensitive. It is therefore possible that a lack of output or any flickering is noticeable when using the laser in cold environments. Give the laser a warm-up time between 5 and 15 minutes, after this the beam output should be steady and on full power.

- When transporting the laser, protect the laser against severe collision and shocks, as the internal circuit and laserdiodes could be damaged. Use the original packaging or a proper case for a longer lifespan of your laser device.

- Only use the included mounting hardware to install this laser device. Other ways of installation are not recommended and Ayra can not be held responsible for any damage or injury caused by improper installation of this device.

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Troubleshooting

If you have any problems with this laser device, consult this troubleshooting section to solve any difficulties with your product. If this troubleshooting section does not solve your problem, contact your dealer for more information and help.

This troubleshooting section contains the most frequent problems and is not a complete collection of possible faults, defects and solutions. The troubleshooting section applies for stand-alone laser devices. It is possible that not all described problems, causes and solutions apply to your situation as product details may vary from product to product.

Problem	**Possible Cause**	**Solution**
Laser device does not activate itself or does not produce any light	Power adapter not plugged in (to a socket or the laser device)	Check if the laser device is connected to a wall outlet properly
	Main fuse blown	Check if other appliances connected to the same power source are activated. If not, check the fuse box of your mains power supply and see if any circuit breakers were activated.
	Broken laser diodes	Disconnect the device and contact your local dealer for help and support.
Laser only projects a static pattern	Laser turned to music mode, but there is no music source	Increase the music volume or place the laser device closer to the music source.
	Laser grating lens motor broken	Disconnect the device and contact your local dealer for help and support.
Laser pattern changes too slow/fast in auto mode	Speed setting set too high/low	Increase/decrease the Speed knob on the rear of the device.

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Technical specifications

- compact laser device with grating technology
- two laser diodes, two outputs
- green 30mW laserdiode, wavelength: 532nm
- red 100mW laserdiode, wavelength: 650nm
- diffraction (grating) lens, dividing the laser beams into hundreds of small individual beams*
- gobo (graphic) lens, creating stunning rotating gobo-effects*
- music controlled and automatic working mode
- music controlled mode with internal microphone
- automatic working mode with two selectable speeds
- mode-switch
- included mounting bracket
- mounting hardware included
- included power supply
- power requirements: 230V AC, 50 Hz
- operation voltage: 12V DC (0,5A)
- dimensions: 98 x 140 x 60 mm
- weight: 0.6 kg

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GRONO CROSS:
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GRONO FIRE:
Decorative laser with hundreds of red cross-star effects (with grating lens) and hundreds of green firefly/firework effects.

**NOTE: Gobo's/graphics and grating effects may vary for each model. Pay close attention to the description of your specific model.*

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